

CLAIMS

1. A method of detecting abnormalities in a supply chain wherein items of a plurality of supply chain principals are transferred in an operational field from one supply chain participant to another through transfer transactions, the method comprising the steps of:

- capturing in the operational field data relating to transfer transactions involving items of all the principals, utilizing distributed electronic data recording equipment;
- storing the captured transaction data in a central trusted database;
- processing the stored data utilizing a processor, to determine data relating to normal behaviour in the chain; and
- determining by utilizing the processor whether new input data relating to transactions in the supply chain is indicative of behaviour that deviates from the data relating to normal behaviour, thereby to detect an abnormality in the supply chain.

2. A method as claimed in claim 1 wherein the capturing of the data is performed by an independent trusted party.

3. A method as claimed in claim 1 or claim 2 wherein the captured data is encrypted before communication thereof to the central database.
- 5 4. A method as claimed in any one of claims 1 to 3 wherein the captured data relating to each transfer transaction comprises a data collection comprising at least one of: data relating to the item, data relating to a receiver of the item, data relating to a transferor of the item, data relating to a time of the transaction
10 and data relating to a place of the transaction.
5. A method as claimed in claim 4 wherein each data collection is associated with an integrity index relating to the integrity of the data collection and wherein the integrity index is utilized by the
15 processor in at least one of said processing step and said determining step.
6. A method as claimed in any one of claims 1 to 5 wherein the processor is further configured to identify a group of new input
20 data collections that is responsible for the indication of behaviour that deviates from normal behaviour, thereby to enable further scrutiny of the group of new input data collections.

7. A system for detecting abnormalities in a supply chain wherein items of a plurality of supply chain principals are transferred in an operational field from one supply chain participant to another through transfer transactions, the system comprising

- 5 - a central trusted database;
- a processor operatively connected to the database;
- a plurality of transaction data recording device operable to capture in the operational field data relating to transfer transactions involving items of all the principals;
- 10 - means for communicating the captured data from the devices to the central trusted database, to be stored in the database;
- the processor being configured to derive from the stored data, data relating to normal supply chain behaviour; and
- 15 - the processor further being configured continually to monitor new input transaction data communicated from the devices and to detect deviations from said data relating to normal supply chain behaviour and to provide a trigger in response thereto indicating an abnormality in the supply
- 20 chain.

8. A system as claimed in claim 7 wherein each device comprises encryption means for encrypting the captured data.

5 9. A system as claimed in any one of claims 7 and 8 wherein the processor forms part of a trainable artificial intelligence decision making system.